



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

Transparent Protection Systems, Inc.
633 Dunksferry Road
Bensalem, PA 19020

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Clear Polycarbonate Storm Panel Shutter

APPROVAL DOCUMENT: Drawing No. 14-1626, titled "Clearguard Polycarbonate Storm Panels ", sheets 1 through 5 of 5, prepared by Engineering Express, dated December 12, 2011, last revision dated August 04, 2014, signed and sealed by Frank L. Bennardo, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each panel shall bear a permanent label with the manufacturer's name or logo, city, state, the following statement: "Miami-Dade County Product Control Approved", and NOA number, per TAS-201, TAS-202, and TAS-203, unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA # 12-0605.11 and consists of this page 1, evidence submitted pages E-1, E-2, & E-3 as well as approval document mentioned above.

The submitted documentation was reviewed by Helmy A. Makar, P.E., M.S.



Helmy A. Makar
01/21/2016

NOA No. 14-0826.03
Expiration Date: 01/21/2021
Approval Date: 01/21/2016

Transparent Protection Systems, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 00-0524.14

A. DRAWINGS

1. *Drawing No. 00-246, titled " Clear Polycarbonate Storm Panel ", prepared by Knezevich & Associates, Inc., dated December 14, 2000, last revision #1 dated June 7, 2001, sheets 1 through 3 of 3, signed and sealed by V. J. Knezevich, P.E.*

B. TESTS

1. *Test report on Large Missile Impact Test, Cyclic Wind Pressure Test and Uniform Static Air Pressure Test of Clear Polycarbonate Storm Panels, prepared by Construction Testing Corporation, Report No. 00-045 dated October 31, 2000, signed and sealed by Yamil G. Kuri, P.E.*
2. *Report on panel thickness of Clear Polycarbonate Storm Panel, prepared by Construction Testing Corporation, dated April 9, 2001, signed by George Dotzler.*
3. *Test report on Self Ignition Temperature, Rate of Burn, and Smoke Density Tests of Clear Polycarbonate Storm Panels, prepared by ETC Laboratories, Inc., Report No. ETC-01-753-10724.0 dated June 13, 2001, signed and sealed by Joseph L. Doldan, P.E.*
4. *Draft Test Report on 900 hours of the 4500 hours exposure of the Accelerated weathering of Clear Polycarbonate Storm Panels, prepared by PRI Asphalt Technologies, Notification No. PRI01041, dated June 13, 2001, by Don Portfolio.*

C. CALCULATIONS

1. *Anchor analysis and shutter calculation, dated December 14, 2000, Pages 1 through 38, prepared by Knezevich and Associates Inc., signed and sealed by V.J. Knezevich, P.E.*

D. MATERIAL CERTIFICATION

1. *Letter from GE Plastics, signed by Mr. Doug Hamilton, dated April 30, 2001, with comparable data between Lexan Sheet 9034 and Lexan resin 103.*

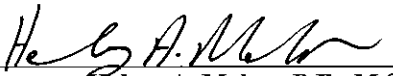
2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #04-0413.03

A. DRAWINGS

1. *Drawing No. 04-342, titled " Clear Polycarbonate Storm Panel ", sheets 1 through 3 of 3, prepared by Knezevich & Associates, Inc., dated June 30, 2004, last revision #1 dated July 26, 2004, signed and sealed by V. J. Knezevich, P.E.*

B. TESTS

1. *None.*


Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
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NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

C. CALCULATIONS

1. *Anchor calculations dated June 30, 2004, 20 pages, prepared by Knezevich & Associates, Inc., signed and sealed by V. J. Knezevich, P.E.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Building Code Compliance Office.*

E. MATERIAL CERTIFICATIONS

1. *None.*

3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 09-0423.04

A. DRAWINGS

1. *Drawing No. 09-123, titled " Clear Polycarbonate Storm Panel ", sheets 1 through 4 of 4, prepared by Knezevich Associates Consulting Engineers, dated April 14, 2009, signed and sealed by V. J. Knezevich, P.E.*

B. TESTS

1. *Test report on Large Missile Impact Test, Cyclic Wind Pressure Test and Uniform Static Air Pressure Test of Clear Polycarbonate Storm Panels, prepared by Hurricane Test Laboratory, LLC, Report # 0239-0312-06 dated January 02, 2007, signed and sealed by Vinu J. Abraham, P.E.*
2. *Test report on Self Ignition Temperature, Rate of Burn, and Smoke Density and Mechanical Property Tests of BAYER Makrolon 3103-UV stabilized Polycarbonate/ETC 06026, prepared by ETC Laboratories, Inc., Report No. ETC-06-753-18071.0 dated June 22, 2007, signed and sealed by Joseph L. Doldan, P.E.*
3. *Letter from Engineering Express, dated August 02, 2006, signed and sealed by Frank L. Bennardo, P.E., regarding Alternative Polycarbonate Material for Clear Guard Storm Panels: CALIBRE 302V-6 Polycarbonate (Manufactured by Dow Chemical Co.).*

C. CALCULATIONS

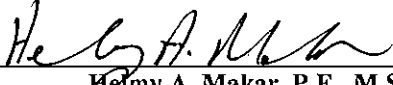
1. *Anchor calculations dated April 17, 2009, 41 pages, prepared by Knezevich Associates Consulting Engineers, signed and sealed by V.J. Knezevich, P.E.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Building Code Compliance Office.*

E. MATERIAL CERTIFICATION

1. *Technical data sheet for CALIBRE 302V-6 polycarbonate resin by Dow, 3 pages.*


Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
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Transparent Protection Systems, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

4. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 12-0605.11

A. DRAWINGS

1. *Drawing No. 09-123, titled " Clear Polycarbonate Storm Panel ", sheets 1 through 4 of 4, prepared by Knezevich Associates Consulting Engineers, dated April 14, 2009, last revision #1 dated May 22, 2012, signed and sealed by V. J. Knezevich, P.E.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

E. MATERIAL CERTIFICATION

1. *None.*

F. STATEMENTS

1. *Letter of compliance with FBC 2010, prepared by Knezevich Associates Consulting Engineers, dated March 30, 2012, signed and sealed by V. J. Knezevich, P.E.*

5. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. *Drawing No. 14-1626, titled " Clearguard Polycarbonate Storm Panels ", sheets 1 through 5 of 5, prepared by Engineering Express, dated December 12, 2011, last revision dated August 04, 2014, signed and sealed by Frank L. Bennardo, P.E.*

B. TESTS

1. *None.*

C. CALCULATIONS

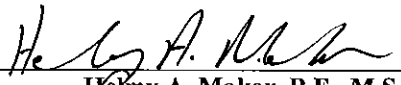
1. *Anchor analysis and shutter calculation, dated 08/04/14, Pages 1 through 48, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

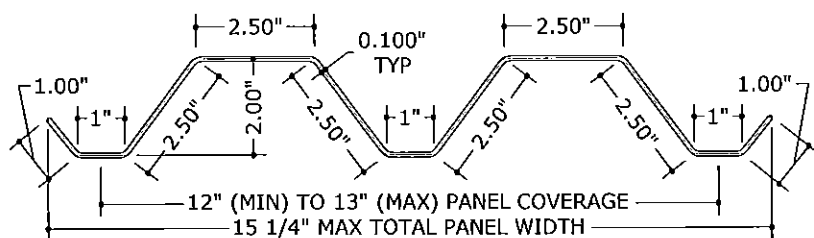
E. MATERIAL CERTIFICATION

1. *None.*


Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
NOA No. 14-0826.03
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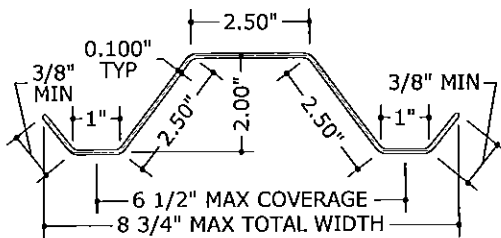


POLYCARBONATE STORM PANELS (HVHZ)



1 FULL PANEL PROFILE
3\" = 1'-0\" (SEE GEN NOTE 7)

MOUNT WITH
FASTENERS
OR STUDS AT
13\" O.C. MAX

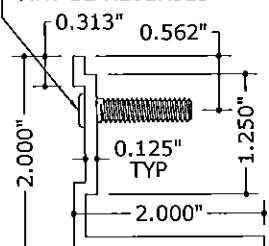


2 HALF PANEL PROFILE
3\" = 1'-0\" (SEE GEN NOTE 7)

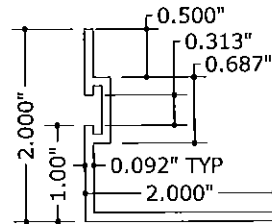
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 14-0826.03
Expiration Date 01/21/2021
By *Frank L. Bennardo*
Miami Dade Product Control

MOUNT WITH
FASTENERS
OR STUDS
AT 6-1/2\"
O.C. MAX

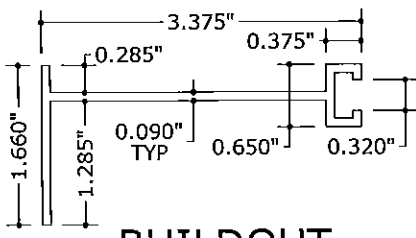
STUD AND/OR LEG DIRECTION
MAY BE REVERSED



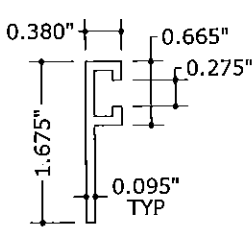
3 STUD ANGLE
6\" = 1'-0\"



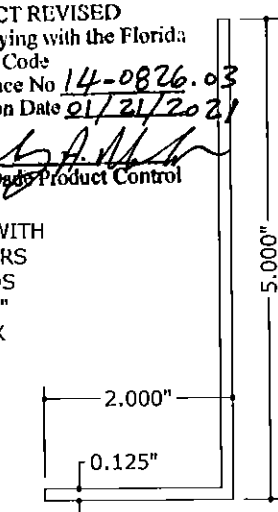
4 REVERSE
'F' ANGLE
6\" = 1'-0\"



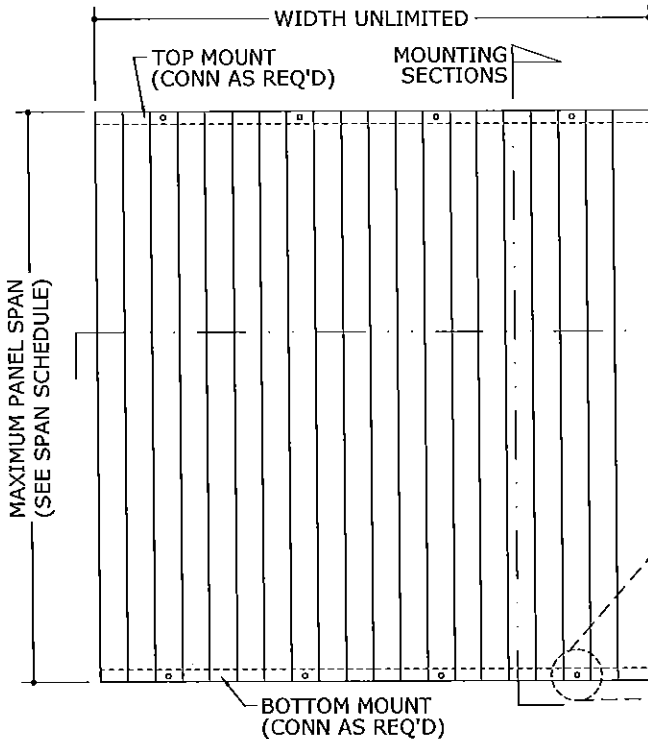
5 BUILDOUT
'F' TRACK
6\" = 1'-0\"



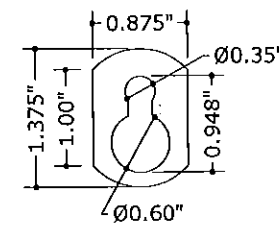
6 'F' TRACK
6\" = 1'-0\"



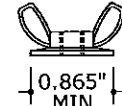
7 CLOSURE
ANGLE
6\" = 1'-0\"



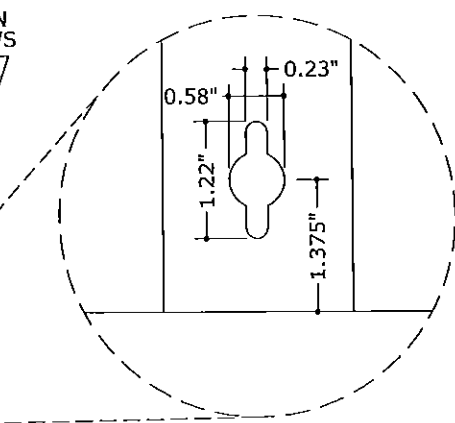
1 TYPICAL ELEVATION
1 N.T.S.



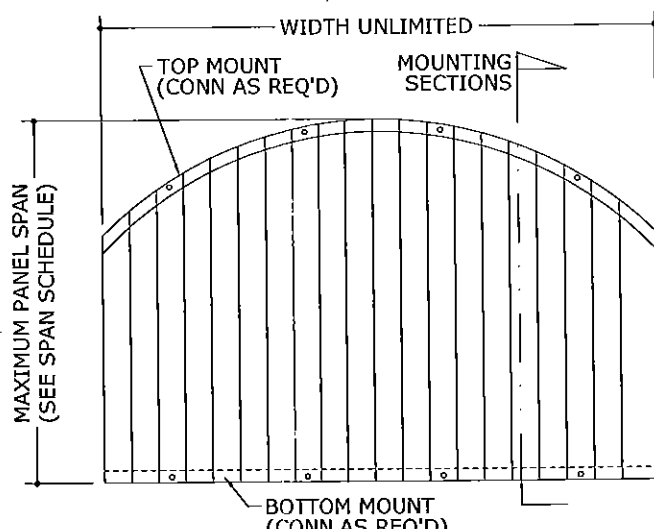
8 KEYHOLE
WASHER
6\" = 1'-0\"



9 WASHERED
WINGNUT
6\" = 1'-0\"



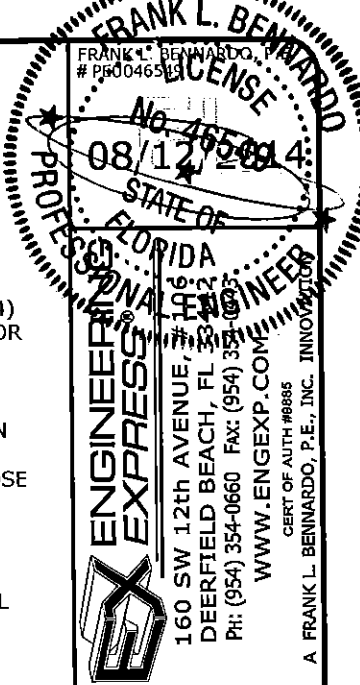
2 KEYHOLE DETAIL
1 N.T.S. ALT: FIELD DRILL Ø3/8\"
HOLE (OR Ø5/8\" HOLE
W/ KEYHOLE WASHER)



3 ALT. ARCH TOP*
1 N.T.S.

GENERAL NOTES:

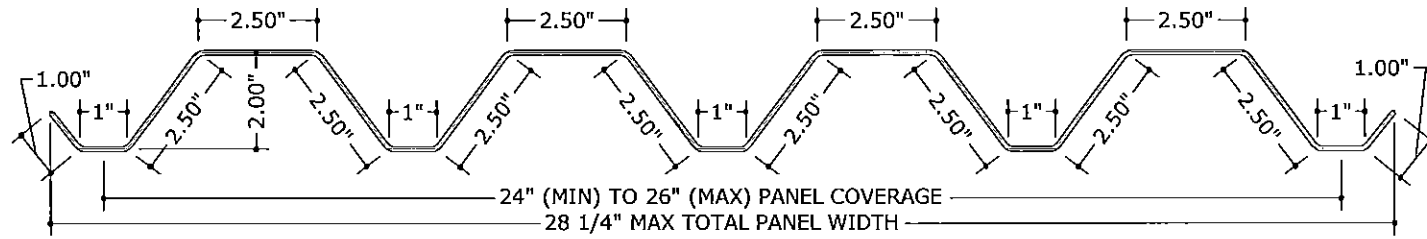
- 1) THIS SYSTEM HAS BEEN TESTED AND EVALUATED AS A LARGE MISSILE IMPACT PROTECTIVE SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE FIFTH EDITION (2014) PER TAS 201, 202, & 203 TEST PROTOCOLS. PANELS ARE APPROVED FOR USE THROUGHOUT THE STATE OF FLORIDA, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ) COMPRISED OF MIAMI-DADE & BROWARD COUNTIES.
 - 2) NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS PRODUCT.
 - 3) POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED BY OTHERS ON A JOB-SPECIFIC BASIS IN ACCORDANCE WITH THE GOVERNING CODE. SITE-SPECIFIC PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7-10 AND CHAPTER 1609 OF THE FLORIDA BUILDING CODE FIFTH EDITION (2014) SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
 - 4) DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
 - 5) THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. IF SITE CONDITIONS DEVIATE FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS TO BE USED IN CONJUNCTION WITH THIS DOCUMENT.
 - 6) THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS IS OUTSIDE THE SCOPE OF THIS CERTIFICATION AND SHALL BE VERIFIED BY OTHERS.
 - 7) CLEAR POLYCARBONATE STORM PANELS (FULL, HALF, & DOUBLE-WIDE) MAY VARY IN "COVERAGE" WIDTH UP TO THE RESPECTIVE MAXIMA SHOWN HEREIN, PROVIDED THAT THE PANEL PROFILE HEIGHT BE MAINTAINED. PANELS SHALL BE MOUNTED WITH FASTENERS OR STUDS AT MAXIMUM SPACING SHOWN FOR EACH PROFILE.
 - 8) ALL POLYCARBONATE PANELS SHALL BE MANUFACTURED BY TRANSPARENT PROTECTION SYSTEMS, INC.
 - 9) THIS PRODUCT APPROVAL IS FOR THE USE OF CLEAR POLYCARBONATE PANELS ONLY. ALL POLYCARBONATE PANELS SHALL BE EXTRUDED WITH THICKNESS $t=0.100"$ ($\pm 0.010"$) AND SHALL BE MANUFACTURED FROM 100% SYNTHETIC THERMOPLASTIC POLYMER RESIN (UV STABILIZED). ANY PLASTIC MATERIAL TO BE USED IN THE HVHZ MUST DEMONSTRATE COMPLIANCE WITH SECTION 2612 OF THE BUILDING CODE SPECIFIED ABOVE. TYPICAL TENSILE STRENGTH $F_y=8.908$ KSI, FLEXURAL STRENGTH $F_{by}=12.90$ KSI, & FLEXURAL MODULUS IS 328.7 KSI.
 - 10) ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, U.N.O.
 - 11) PANELS SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER PANEL CONTAINING THE FOLLOWING:
TRANSPARENT PROTECTION SYSTEMS, INC.
WEST PALM BEACH, FLORIDA
MIAMI-DADE COUNTY PRODUCT APPROVED
 - 12) STORM PANELS HAVE BEEN DESIGNED AND TESTED TO THE MAXIMUM SPANS AND CORRESPONDING LOADS SHOWN HEREIN. REFERENCE CONSTRUCTION TESTING CORPORATION (CTC OF MIAMI, FL) TEST REPORTS #04-009-FE-FBC & #04-009-LE-FBC, AS WELL AS HURRICANE TEST LAB (HTL OF RIVIERA BEACH, FL) TEST REPORTS #0239-0107-05, #0239-1013-07, & #0239-0312-06.
 - 13) TOP & BOTTOM MOUNTING SECTIONS MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED VERTICALLY OR HORIZONTALLY AS APPLICABLE.
 - 14) USE OF KEYHOLE WASHERS IS OPTIONAL IN CONJUNCTION WITH ANY MOUNTING CONDITION. HOLES MAY BE FIELD DRILLED IN PANELS AT Ø3/8" (OR Ø5/8" WITH KEYHOLE WASHER) WITH ANY FASTENER TYPE. WASHERED WINGNUTS SHALL HAVE 0.865" MINIMUM WASHER DIAMETER.
 - 15) ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, OR STAINLESS STEEL WITH A MINIMUM TENSILE YIELD STRENGTH OF 60 KSI.
- *NOTE: FOR ALTERNATE ARCH TOP INSTALLATIONS, THE TOP TRACK OR U-HEADER SHALL BE CUT INTO 6" MINIMUM ADJACENT SEGMENTS. EACH SEGMENT SHALL HAVE ANCHORS SPACED PER THE ANCHOR SCHEDULE, WITH A MINIMUM OF (2) ANCHORS PER SEGMENT. ANCHORS SHALL BE 1-1/2" MIN FROM ENDS OF EACH SEGMENT AND SPACED 3" MINIMUM FROM ADJACENT ANCHORS. FOR STUDDED TRACKS ONLY, THERE SHALL BE A MINIMUM OF (1) STUD PER SEGMENT FASTENED TO THE STORM PANEL. STUDS SHALL BE LOCATED 2" MINIMUM FROM ENDS OF EACH SEGMENT.



Transparent Protection Systems, Inc.
633 DUNKSFERRY ROAD
BENSALLEN, PA 01920
CLEARGUARD POLYCARBONATE STORM PANELS
FOR USE WITHIN AND OUTSIDE THE HVHZ
MIAMI-DADE NOTICE OF ACCEPTANCE

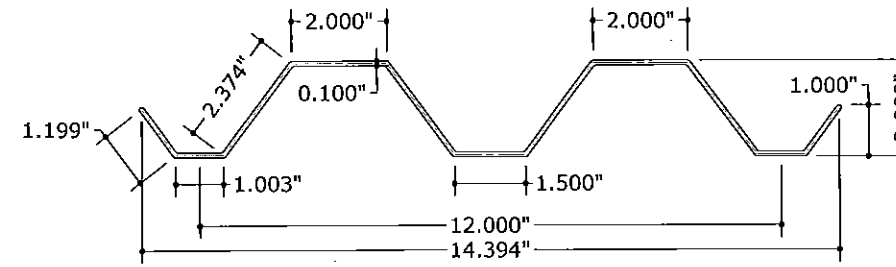
REMARKS	DRWN	CHKD	DATE
2010 UPDATE (FL6416)	EFT	KL	12-12-11
INT. ISSUE FOR NOA	GSL	TJB	08-04-14

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14-1626
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PAGE DESCRIPTION:
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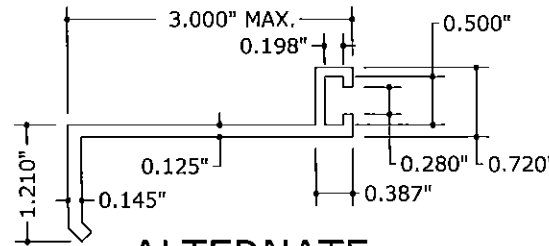
11 "CLEARMAX™" DOUBLE-WIDE PANEL PROFILE
3" = 1'-0" (SEE GEN NOTE 7)

MOUNT WITH
FASTENERS
OR STUDS AT
13" O.C. MAX

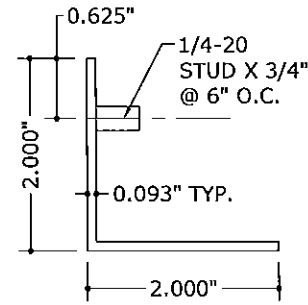


12 ALT. FULL PANEL PROFILE
N.T.S. (SEE GEN NOTE 7)

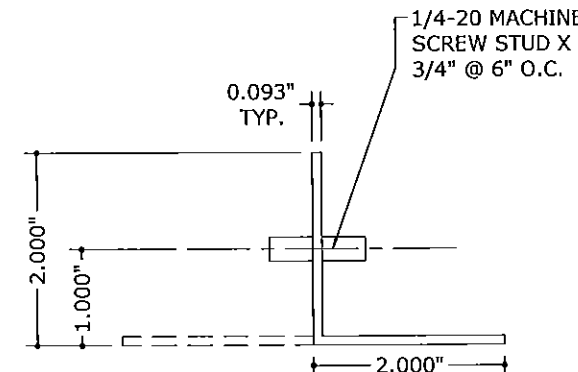
MOUNT WITH
FASTENERS
OR STUDS AT
13" O.C. MAX



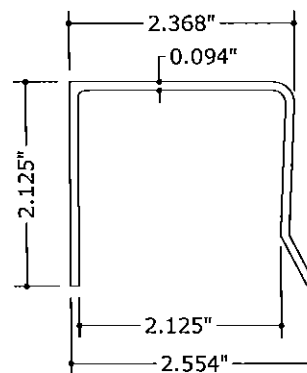
13 ALTERNATE
B.O. 'F' TRACK
6" = 1'-0" 6063-T6



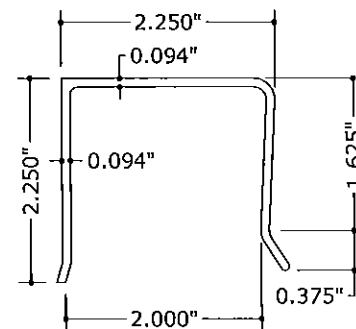
14 ALTERNATE
STUD ANGLE
6" = 1'-0" 6063-T6



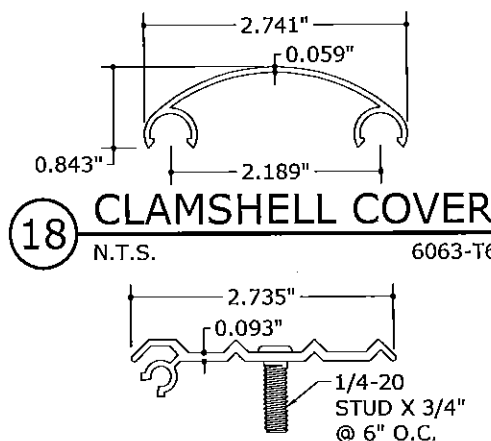
15 STUDDED ANGLE
6" = 1'-0" 6063-T6



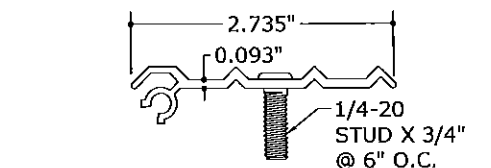
16 U-HEADER
N.T.S. 6063-T6



17 ALTERNATE
U-HEADER
N.T.S. 6063-T6

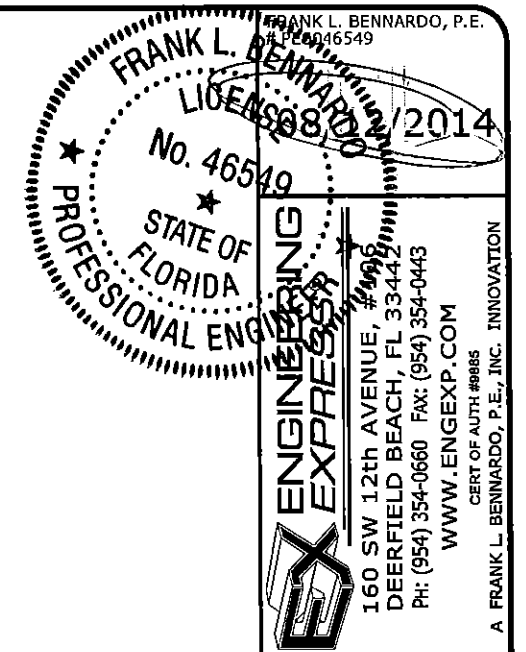


18 CLAMSHELL COVER
N.T.S. 6063-T6



19 CLAMSHELL TRACK
N.T.S. 6063-T6

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 14-0826.03
Expiration Date 01/21/2021
By *Frank L. Bennardo*
Miami Dade Product Control



Transparent
Protection
Systems, Inc.
633 DUNKSFERRY ROAD
BENSALEM, PA 01920
CLEARGUARD POLYCARBONATE STORM PANELS
FOR USE WITHIN AND OUTSIDE THE HVHZ
MIAMI-DADE NOTICE OF ACCEPTANCE

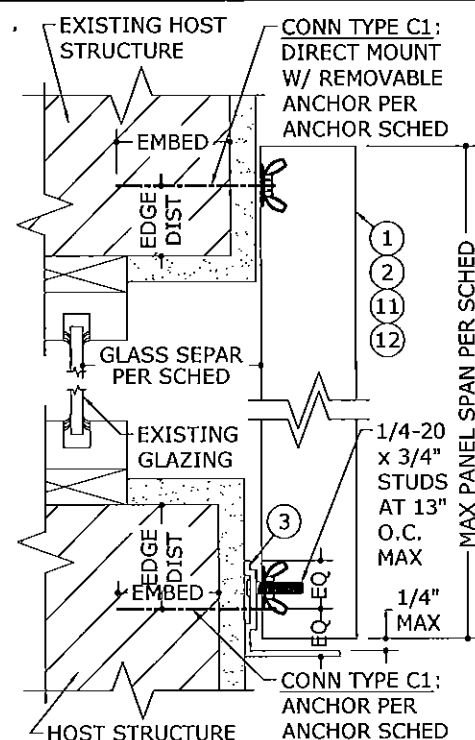
REMARKS	DRWN	CHKD	DATE
2010 UPDATE (FL6416.1)	EFT	KL	12-12-11
INT. ISSUE FOR NOA	CSL	TSB	08-04-14

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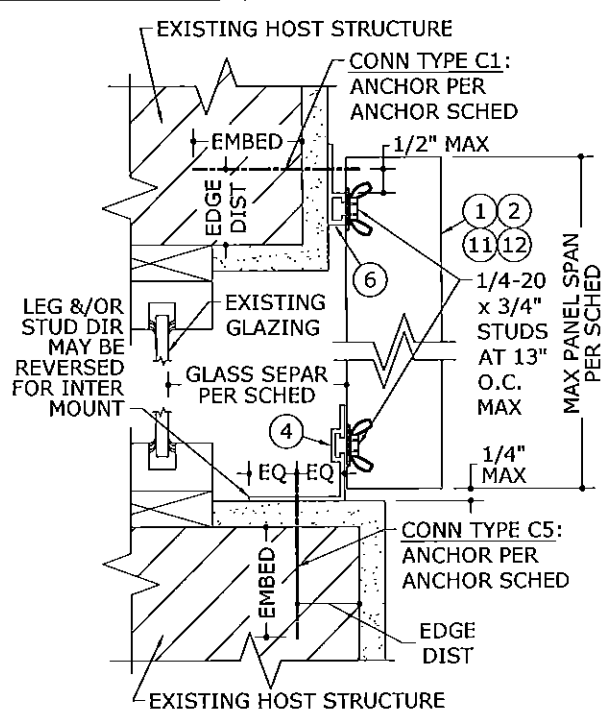
14-1626

SCALE:
PAGE DESCRIPTION:

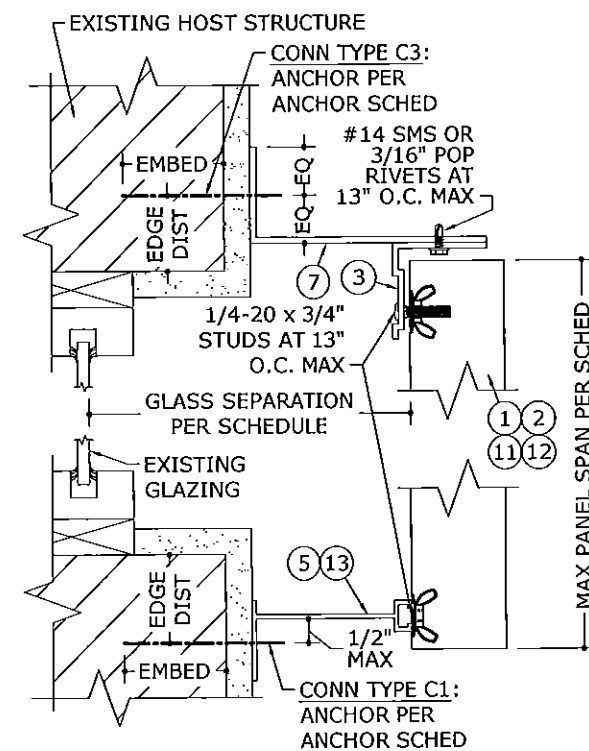
V:\Projects\14-1626 Convert ClearGuard Polycarb Storm Panels (08-TPS-0007) FL6416 to NOA-Initial Sub\WPY14-1626c ClearGuard Polycarbonate Storm Panels, HVHZ (NOA).dwg
08/12/2014 - 10:42am chen



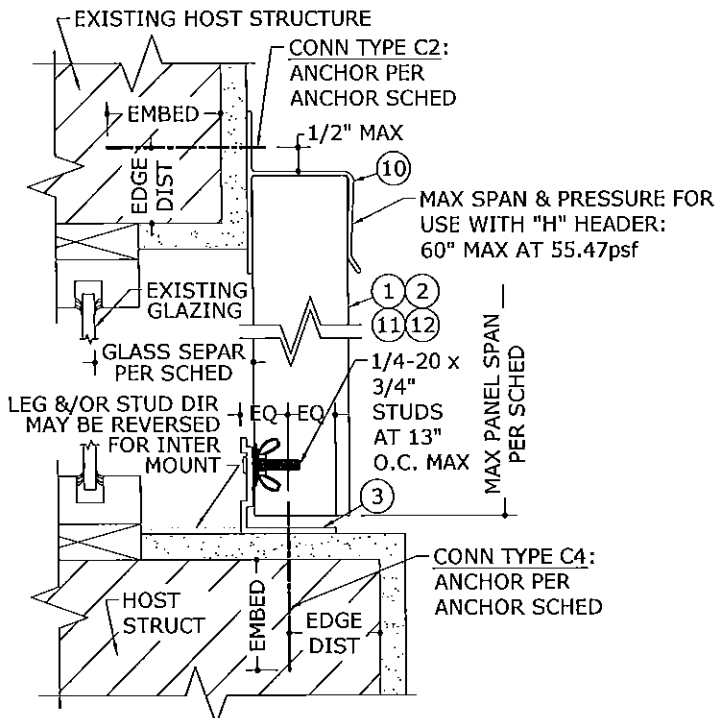
1 MOUNTING SECTION
3 3" = 1'-0" VERT SECTION



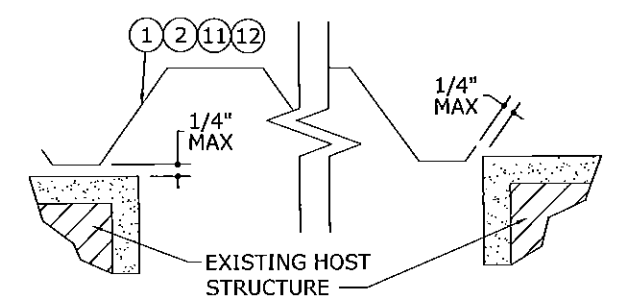
2 MOUNTING SECTION
3 3" = 1'-0" VERT SECTION



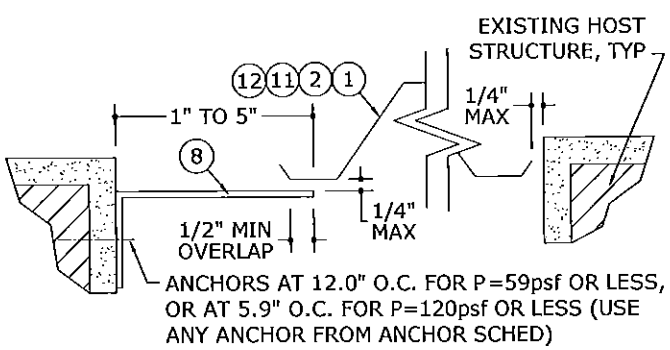
3 MOUNTING SECTION
3 3" = 1'-0" VERT SECTION



4 MOUNTING SECTION
3 3" = 1'-0" VERT SECTION



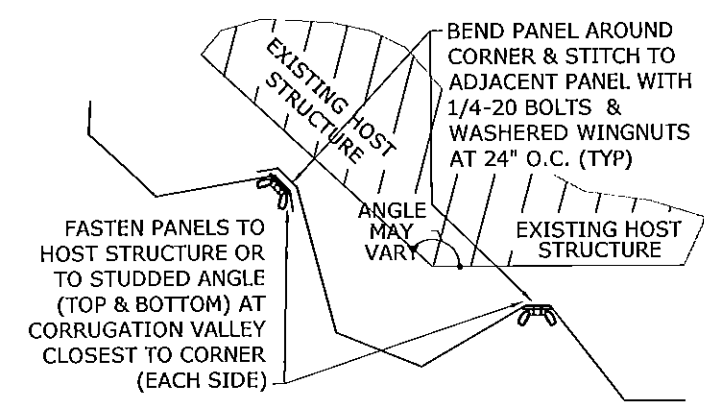
7 WALL MOUNT CLOSURE
3 3" = 1'-0" PLAN VIEW



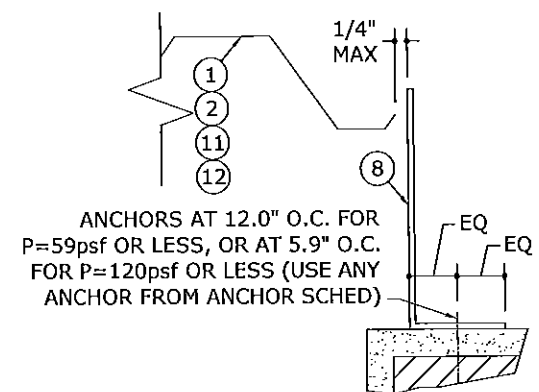
8 TRAP MOUNT CLOSURE
3 3" = 1'-0" PLAN VIEW

MAXIMUM PANEL SPAN SCHEDULE (POSITIVE CONN.)

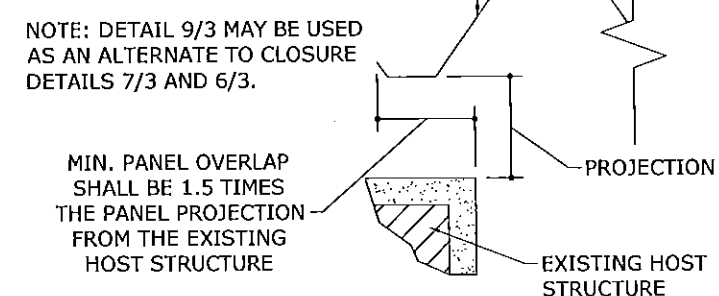
LOAD (psf)	MAX SPAN (ft)
±25	6'-5"
±30	6'-2"
±32	6'-1"
±35	5'-11"
±40	5'-9"
±45	5'-7"
±50	5'-5"
±55	5'-3"
±60	5'-2"
±65	5'-1"
±70	5'-0"
±75	4'-10"
±80	4'-9"
±90	4'-7"
±100	4'-4"
±110	3'-11"
±120	3'-7"



5 CORNER CLOSURE
3 N.T.S. PLAN VIEW



6 BUILD-OUT CLOSURE
3 3" = 1'-0" PLAN VIEW



9 PANEL OVERLAP
3 N.T.S. PLAN VIEW

MAXIMUM SPAN SCHEDULE NOTES:

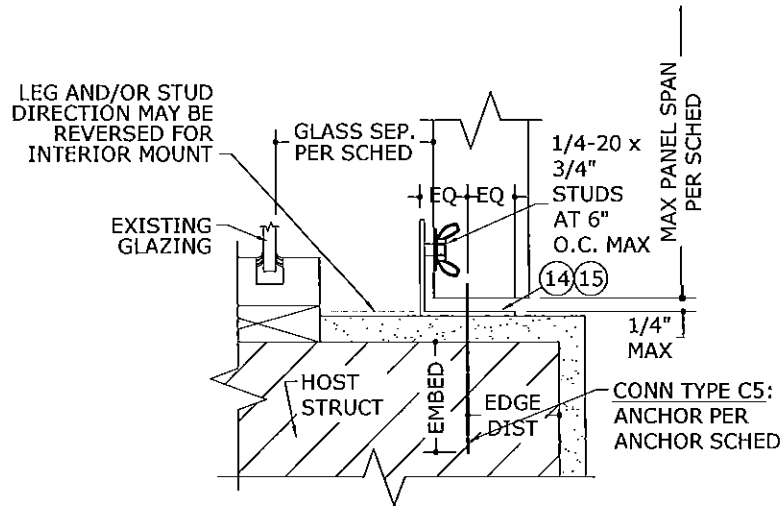
1. SPANS SHOWN IN "MAX PANEL SPAN SCHEDULE" ABOVE ARE MAXIMUM ALLOWABLE SPANS AT EACH RESPECTIVE DESIGN PRESSURE.
2. THIS SCHEDULE MAY BE USED TO DETERMINE MAXIMUM ALLOWABLE SPANS FOR PANELS INSTALLED USING ANY COMBINATION OF MOUNTING EXTRUSIONS INVOLVING A POSITIVE CONNECTION - I.E. ALL INSTALLATIONS WHICH DO NOT INCLUDE AN "H" OR "U" HEADER.
3. WHERE THE "H" HEADER IS USED, THE MAXIMUM ALLOWABLE SPAN IS 5'-0" (60") AND THE MAXIMUM ALLOWABLE PRESSURE IS 55.47psf.
4. WHERE "U" HEADER IS USED, THE MAXIMUM ALLOWABLE SPAN IS 4'-4" (52") AND THE MAXIMUM ALLOWABLE PRESSURE IS +78/-80 PSF.
5. TABLE ABOVE IS VALID FOR PANELS MOUNTED HORIZONTALLY OR VERTICALLY. SPAN DIRECTION IS ALWAYS PERPENDICULAR TO LINE OF ANCHORAGE.

FRANK L. BENNARD, P.E.
LICENSE No. 46048
STATE OF FLORIDA
PROFESSIONAL ENGINEER
EXPRESS MAIL
160 SW 12th AVENUE, #1068
DEERFIELD BEACH, FL 33442
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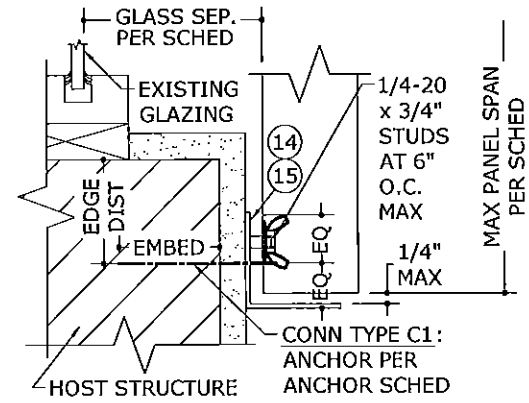
Transparent Protection Systems, Inc.
TPS
633 DUNKSFERRY ROAD
BENSALEM, PA 01920
CLEARGUARD POLYCARBONATE STORM PANELS
FOR USE WITHIN AND OUTSIDE THE HVHZ
MIAMI-DADE NOTICE OF ACCEPTANCE

REMARKS
2010 UPDATE (FL6416.1)
INT. ISSUE FOR NOA
DATE
12-12-11
EFT
CSL
TSB
08-04-14
14-1626
SCALE:
PAGE DESCRIPTION:
3

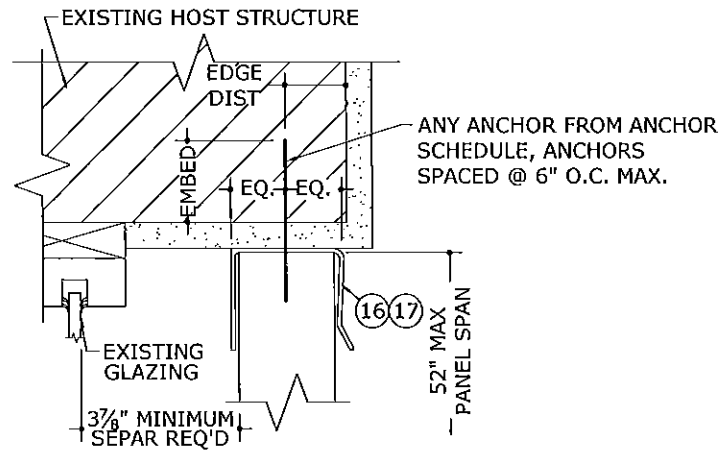
V:\Projects\14-1626 Convert ClearGuard Polycarb Storm Panels (08-TPS-0007) FL6416 to NOA-Initial Sub\WP14-1626c ClearGuard Polycarbonate Storm Panels - HVHZ (NOA).dwg 08/12/2014 - 10:42am chen



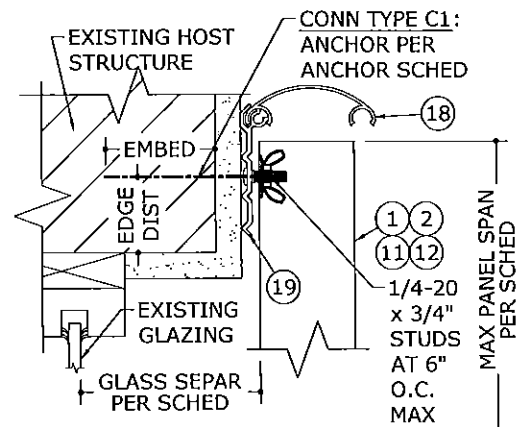
1 MOUNTING SECTION
3" = 1'-0" VERT SECTION



2 MOUNTING SECTION
3" = 1'-0" VERT SECTION

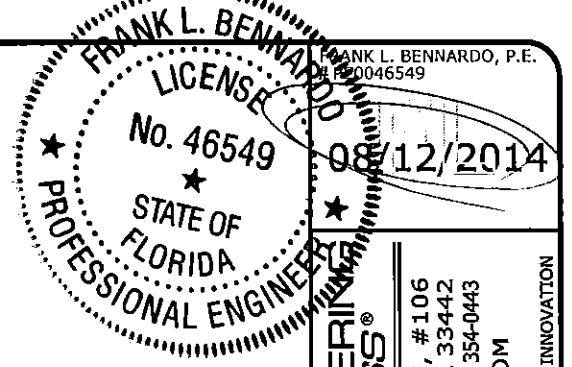


3 MOUNTING SECTION
N.T.S. VERT SECTION



4 MOUNTING SECTION
N.T.S. VERT SECTION

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 14-0826.03
Expiration Date 01/21/2021
By *Heidi H. Mohr*
Miami Dade Product Control



ENGINEERING EXPRESS
160 SW 12th AVENUE, #106
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Ph: (954) 354-0660 Fax: (954) 354-0443
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CERT. OF AUTH. #885
A FRANK L. BENNARDO, P.E., INC. INNOVATION

TPS Transparent Protection Systems, Inc.
633 DUNKSFERRY ROAD
BENSALEM, PA 01920
CLEARGUARD POLYCARBONATE STORM PANELS
FOR USE WITHIN AND OUTSIDE THE HVHZ
MIAMI-DADE NOTICE OF ACCEPTANCE

REMARKS	DRWN	CHKD	DATE
2010 UPDATE (FL6416.1)	EFT	KL	12-12-11
INT. ISSUE FOR NOA	CSL	TSB	08-04-14

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14-1626
SCALE:
PAGE DESCRIPTION:
4 OF 5

ANCHOR SCHEDULE

HOST STRUCT.	ANCHOR	LOAD (psf)	2" MIN EDGE DISTANCE														
			Spans Up To 4'-0"					Spans Up To 6'-0"					Spans Up To 7'-6"				
			CONN TYPE					CONN TYPE					CONN TYPE				
CONCRETE	1/4" ELCO ULTRACON OR ITW ATT TAPCON WITH 1-3/4" EMBED (3000 PSI MIN CONC)	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	10.8"	13.0"	13.0"	13.0"	13.0"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	9.6"	7.5"	13.0"	13.0"	13.0"
		65	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	9.8"	7.6"	13.0"	13.0"	7.8"	6.1"	13.0"	8.4"	13.0"
		120	13.0"	7.9"	6.2"	13.0"	8.5"	5.4"	5.3"	4.1"	5.1"	5.7"	4.3"	3.3"	4.1"	4.5"	13.0"
	1/4" ELCO PANELMATE WITH 1-3/4" MIN EMBED (3350 PSI MIN CONC)	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	12.2"	9.6"	13.0"	13.0"
		65	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	12.5"	9.7"	13.0"	13.0"	13.0"	10.0"	7.8"	13.0"	10.6"
		120	13.0"	10.1"	7.9"	13.0"	10.8"	6.9"	6.8"	5.3"	6.5"	7.2"	5.5"	5.4"	4.2"	5.2"	5.8"
	1/4-20 ALL POINTS SOLID- SET WITH 7/8" MIN EMBED (3000 PSI MIN CONC)	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	10.9"	13.0"	13.0"	13.0"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	9.6"	7.5"	13.0"	13.0"
		65	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	9.8"	7.7"	13.0"	13.0"	13.0"	7.9"	6.1"	13.0"	9.8"
		120	13.0"	8.0"	6.2"	13.0"	9.9"	5.4"	5.3"	4.1"	5.9"	6.6"	4.3"	3.3"	4.7"	5.3"	13.0"
	1/4-20 POWERS CALK-IN WITH 7/8" MIN EMBED (3000 PSI MIN CONC)	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	6.9"	13.0"	11.8"	11.8"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	6.1"	4.7"	10.4"	10.4"
		65	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	6.2"	4.8"	10.6"	10.6"	13.0"	5.0"	3.9"	8.5"	4.9"
		120	13.0"	5.0"	3.9"	8.6"	5.0"	3.4"	3.4"	N/A	N/A	3.3"	N/A	N/A	N/A	N/A	N/A

HOST STRUCT.	ANCHOR	LOAD (psf)	2" MIN EDGE DISTANCE														
			Spans Up To 4'-0"					Spans Up To 6'-0"					Spans Up To 7'-6"				
			CONN TYPE					CONN TYPE					CONN TYPE				
HOLLOW BLOCK (ASTM C-90 MIN)	1/4" ELCO ULTRACON WITH 1-1/4" EMBED	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	10.7"	10.7"	10.7"	11.2"	11.2"	13.0"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	11.9"	11.9"	11.9"	12.5"	12.5"	9.5"	3.6"	9.5"	10.0"	10.0"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	10.6"	10.6"	10.6"	11.1"	11.1"	8.5"	3.2"	N/A	8.9"	8.9"
		65	12.9"	12.9"	12.9"	13.0"	13.0"	8.6"	3.2"	N/A	9.0"	9.0"	6.9"	N/A	N/A	7.2"	3.3"
		120	7.0"	N/A	N/A	7.3"	3.3"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1/4" ELCO PANELMATE WITH 1-1/4" MIN EMBED	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	7.2"	13.0"	13.0"	13.0"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	6.3"	4.9"	13.0"	13.0"
		65	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	6.5"	5.0"	13.0"	13.0"	13.0"	5.2"	4.0"	12.4"	6.1"
		120	13.0"	5.3"	4.1"	12.6"	6.2"	3.6"	3.5"	N/A	3.7"	4.1"	N/A	N/A	N/A	3.3"	13.0"
	1/4-20 ALL POINTS SOLID- SET WITH 7/8" MIN EMBED	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	7.3"	13.0"	13.0"	13.0"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	6.4"	5.0"	12.0"	12.0"
		65	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	6.6"	5.1"	12.3"	12.3"	13.0"	5.2"	4.1"	9.8"	5.4"
		120	13.0"	5.3"	4.2"	10.0"	5.5"	3.6"	3.6"	N/A	3.3"	3.7"	N/A	N/A	N/A	N/A	N/A

HOST STRUCT.	ANCHOR	LOAD (psf)	3/4" MIN EDGE DISTANCE														
			Spans Up To 4'-0"					Spans Up To 6'-0"					Spans Up To 7'-6"				
			CONN TYPE					CONN TYPE					CONN TYPE				
WOOD (G=0.55 MIN)	1/4" TAPCON (ELCO OR ITW) OR #14 WOOD SCREW W/ 1-1/2" EMBED	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	11.6"	11.6"	13.0"	13.0"	13.0"	9.3"	9.3"	13.0"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	10.4"	10.4"	13.0"	7.7"	13.0"	8.3"	8.3"	13.0"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	9.2"	9.2"	13.0"	6.8"	5.3"	7.4"	7.4"	13.0"
		65	13.0"	13.0"	13.0"	11.3"	11.3"	13.0"	6.9"	5.4"	7.5"	13.0"	5.5"	4.3"	6.0"	4.1"	13.0"
		120	13.0"	5.6"	4.4"	6.1"	4.2"	3.8"	3.8"	2.9"	2.6"	3.1"	3.0"	2.3"	2.1"	2.2"	13.0"
	1/4" ELCO PANELMATE (FEMALE, MALE, OR PLUS) W/ 1-7/8" MIN EMBED	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	11.6"	13.0"	13.0"	13.0"
		65	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	11.8"	13.0"	13.0"	12.1"	9.4"	13.0"	9.4"	13.0"
		120	13.0"	12.3"	9.6"	13.0"	9.6"	8.3"	8.2"	6.4"	5.9"	6.4"	6.7"	6.5"	5.1"	4.7"	5.1"
	7/16" WOOD BUSHING W/ 7/8" MIN EMBED & 1/4-20 S.S. MACHINE SCREW	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	5.9"	13.0"	13.0"	13.0"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	5.2"	4.1"	13.0"	13.0"
		65	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	5.3"	4.1"	13.0"	13.0"	11.4"	4.2"	3.3"	11.4"	5.3"
		120	11.6"	4.3"	3.4"	11.6"	5.4"	2.9"	2.9"	2.2"	3.2"	3.6"	2.3"	N/A	2.5"	2.9"	13.0"
	1/4" LAG SCREW WITH 2-3/32" MIN THREAD PENETR	42	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	12.1"	12.1"	13.0"	13.0"	13.0"	9.7"	9.7"
		47	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	10.8"	10.8"	13.0"	9.9"	13.0"	8.6"	8.6"
		53	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	13.0"	9.6"	9.6"	13.0"	8.8"	6.9"	7.7"	7.7"
		65	13.0"	13.0"	13.0"	11.7"	11.7"	13.0"	9.0"	7.0"	7.8"	7.8"	13.0"	7.2"	5.6"	6.3"	4.5"
		120	13.0"	7.3"	5.7"	6.4"	4.6"	5.0"	4.9"	3.8"	2.9"	3.1"	4.0"	3.9"	3.0"	2.3"	2.5"

MINIMUM GLASS SEPARATION SCHEDULE

POSITIVE LOAD (psf)	SPAN LESS THAN	MINIMUM SEPARATION AT OR BELOW 30' ABOVE GRADE	MINIMUM SEPARATION AT ELEV > 30' ABOVE GRADE
32	4'-0"	4.23"	1.37"
	4'-9"	4.23"	1.73"
	6'-1"	5.35"	3.00"
40	4'-0"	4.23"	1.46"
	4'-9"	4.23"	1.92"
	5'-9"	5.35"	3.00"
45	4'-0"	4.23"	1.52"
	4'-9"	4.23"	2.03"
	5'-7"	5.35"	3.00"
50	4'-0"	4.23"	1.58"
	4'-9"	4.23"	2.14"
	5'-6"	5.35"	3.00"
60	4'-0"	4.23"	1.69"
	4'-9"	4.23"	2.37"
	5'-3"	5.35"	3.00"
70	4'-0"	4.23"	1.81"
	4'-9"	4.23"	2.60"
	5'-0"	5.35"	3.00"
120	3'-8"	4.23"	1.97"

ANCHOR NOTES:

- FOR ALL CONCRETE ANCHORS, UTILIZE EITHER 1/4" ITW ATT TAPCONS OR 1/4" ELCO ULTRACONS AS SPECIFIED IN THE ANCHOR SCHEDULES.
- "ELCO PANELMATE" ANCHORS MAY BE MALE, FEMALE, OR PANELMATE PLUS, AS ILLUSTRATED HEREIN. HEAD STYLE MAY BE STD 13/32" OR WASHERED 5/8" HEX HEAD.
- ENSURE MINIMUM 2" EDGE DISTANCE FOR ALL ANCHORS TO CONCRETE & TO HOLLOW BLOCK. ENSURE 3/4" EDGE DISTANCE FOR ALL ANCHORS TO WOOD.
- MINIMUM EMBEDMENT SHALL BE AS NOTED IN THE ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, EFIS, BRICK AND OTHER WALL FINISHES. AN ALUMINUM OR GALVANIZED STEEL SPACER SHALL BE USED TO CASE ANCHORS WHEN INSTALLED TO EIFS, ICF OR OTHER MALLEABLE FINISHES. USE OF THE SPACER IS OPTIONAL FOR INSTALLATION TO STUCCO, BRICK OR OTHER RIGID FINISHES. ALL WALL FINISHES ARE BY OTHERS AND SHALL PROVIDE ADEQUATE RESISTANCE TO TRANSFER ALL LOADS TO THE SUPPORTING HOST STRUCTURE.
- CONCRETE ANCHORS NOTED HEREIN SHALL BE EMBEDDED TO UN-CRACKED CONCRETE ONLY. INSTALL